US009636487B2

(12) **United States Patent**
Utz et al.

(10) **Patent No.: US 9,636,487 B2**
(45) **Date of Patent: May 2, 2017**

(54) **METERS FOR IN-VIVO MONITORING**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 899 days.

(21) Appl. No.: **13/704,782**

(22) PCT Filed: **Jun. 17, 2011**

(86) PCT No.: **PCT/US2011/040976**

§ 371 (c)(1),
(2), (4) Date: **Jul. 30, 2013**

(87) PCT Pub. No.: **WO2011/160080**

PCT Pub. Date: **Dec. 22, 2011**

(65) **Prior Publication Data**

US 2013/0303967 A1 Nov. 14, 2013

Related U.S. Application Data

(60) Provisional application No. 61/355,778, filed on Jun. 17, 2010.

(51) **Int. Cl.**

A61M 27/00	(2006.01)
A61B 5/03	(2006.01)
A61B 5/00	(2006.01)

(52) **U.S. Cl.**

CPC ..... ***A61M 27/006*** (2013.01); ***A61B 5/031*** (2013.01); ***A61B 5/6861*** (2013.01); (Continued)

(58) **Field of Classification Search**

CPC A61B 5/031; A61B 5/6861; A61B 5/6868; A61B 2562/0247; A61M 27/006; Y10T 29/49117

See application file for complete search history.

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(57) **ABSTRACT**

Systems and methods for use in monitoring treatment of pressure-related conditions, such as hydrocephalus, include an implantable vessel, and a meter including one or more microfluidic channels connected to the vessel. The microfluidic channels may be configured to detect at least one of pressure and fluid flow rate through the vessel and to be read out remotely by a wirelessly coupled external device. The meter may include a passive resonant (LC) circuit. A dynamic flap may be included in the microfluidic channel that may act as part of the LC circuit. An external device may also be configured to inductively couple remotely to the LC circuit, with-out physical connections to the implantable
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